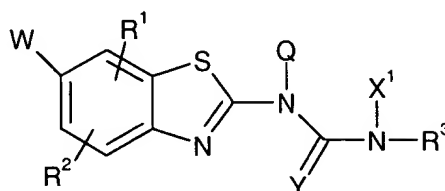


# **Listing of Claims:**

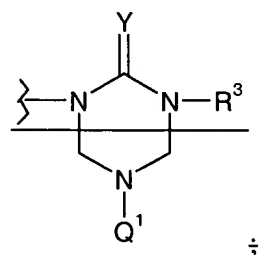
1. (Currently Amended) A compound of formula (I),



(I),

racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein,

Q is H or represents a bond which is taken together with X<sup>1</sup> and the two nitrogen atoms to which Q and X<sup>1</sup> are attached and the C=Y group to which the two nitrogen atoms are attached to form

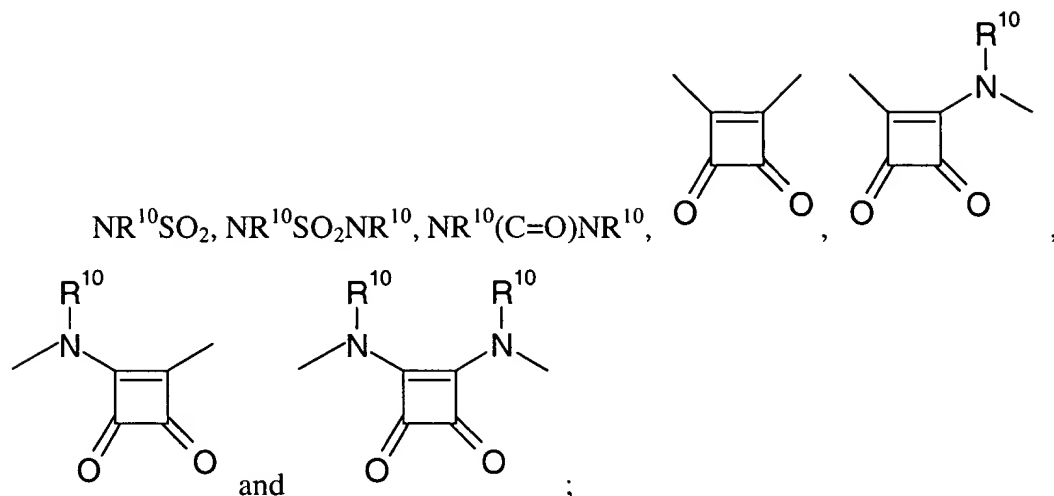


Q<sup>1</sup> is (C<sub>1</sub>-C<sub>6</sub>)alkyl;

Y is O or S;

W is H, Cl, Br, I, NO<sub>2</sub>, CN, SCN, OCF<sub>3</sub>, -X<sub>q</sub>-(C(R<sup>10</sup>)<sub>2</sub>)<sub>a</sub>-Y<sup>1</sup><sub>q</sub>-(C(R<sup>10</sup>)<sub>2</sub>)<sub>a</sub>-Z<sup>1</sup><sub>q</sub>, or an optionally substituted group selected from the group consisting of alkyl, alkenyl, and alkynyl, ~~heterocyclyl~~ alkenyl, and heterocyclyl-alkynyl;

Y<sup>1</sup> and X are each independently selected from the group consisting of phenyl, ~~heterocyclyl~~, NR<sup>10</sup>, O, S, SO, SO<sub>2</sub>, CF<sub>2</sub>, CFR, C=O, (C=O)NR<sup>10</sup>, SONR<sup>10</sup>, SO<sub>2</sub>NR<sup>10</sup>, NR<sup>10</sup>(C=O), NR<sup>10</sup>SO,



q for each occurrence is independently 0 or 1;

a for each occurrence is independently 0 or an integer from 1 to 5;

$\text{R}^{10}$  for each occurrence is independently selected from the group consisting of H, optionally substituted aryl, ~~optionally substituted heterocyclyl~~ and an optionally substituted alkyl group optionally substituted with one or more of the following: a  $\text{C}_{1-6}$  alkyl group optionally substituted by one or more hydroxy, halo or optionally substituted amino; a  $\text{C}_{1-6}$  alkoxy group optionally substituted by one or more hydroxy, halo or optionally substituted amino; hydroxy; halo; or optionally substituted amino;

$\text{Z}^1$  is H, optionally substituted alkyl, or optionally substituted aryl ~~or optionally substituted heterocyclyl~~;

$\text{X}^1$  is hydrogen, alkyl or hydroxyalkyl; ~~or represents a bond which is taken together with  $\text{R}^3$  as described below or represents a bond which is taken together with Q as described above;~~

$\text{R}^1$  and  $\text{R}^2$  are each independently hydrogen, halogen, hydroxy, nitro, cyano,  $\text{COOH}$ ,  $\text{COOX}^3$ ,  $\text{SX}^3$ ,  $\text{SO}_2\text{X}^3$ ,  $\text{SOX}^3$ ,  $\text{C}(\text{O})\text{X}^3$ ,  $\text{NHC}(\text{O})\text{X}^3$ ,  $\text{C}(\text{O})\text{NHX}^3$ ,  $\text{NHSO}_2\text{X}^3$  or selected from an optionally substituted group consisting of alkyl, alkenyl, alkynyl, alkoxy, amino,  $\text{-NHX}^3$ ,  $\text{-NX}^3\text{X}^3$ , alkylamino, arylamino, ~~heterocyclylamino~~, alkylthio, alkylsulfonato, aryl, aryloxy, arylalkyl, arylalkenyl, arylalkynyl, arylalkyloxy, ~~heterocyclyl~~, ~~heterocyclyloxy~~, ~~heterocyclyl alkyl~~, ~~heterocyclyl alkenyl~~, ~~heterocyclyl alkynyl~~, ~~heterocyclyl alkyloxy~~, ~~heterocyclylthio~~, ~~heterocyclylsulfinyl~~, ~~heterocyclylsulfonyl~~, cycloalkyl,  $\text{-(CH}_2\text{)}_m\text{-(CHX}^2\text{)CN}$ ,  $\text{-(CH}_2\text{)}_m\text{-(CHX}^2\text{)COOH}$ ,  $\text{-(CH}_2\text{)}_m\text{-(CHX}^2\text{)COOX}^3$ ,  $\text{-(CH}_2\text{)}_m\text{-(CHX}^2\text{)SO}_2\text{X}^3$ ,  $\text{-(CH}_2\text{)}_m\text{-(CHX}^2\text{)C}(\text{O})\text{X}^3$ ,  $\text{-(CH}_2\text{)}_m\text{-(CHX}^2\text{)C}(\text{O})\text{NHX}^3$  and

$-(CH_2)_m-(CHX^2)NHSO_2X^3$  provided that the alkylamino and arylamino are attached to the phenyl ring via the nitrogen of the amino group;

where m is 0 to 4;

$X^2$  for each occurrence is independently H or an optionally substituted moiety selected from the group consisting of alkyl, alkenyl, alkynyl, carbonyl,  $S(O)_p$ alkyl,  $S(O)_p$ aryl,  $S(O)_p$ heterocyclyl, amino, alkoxy, alkylthio, arylthio, perhaloalkyl, aryl, aryloxy, arylalkyl, and arylalkyloxy; ~~heterocyclyl and heterocyclyl-alkyl;~~

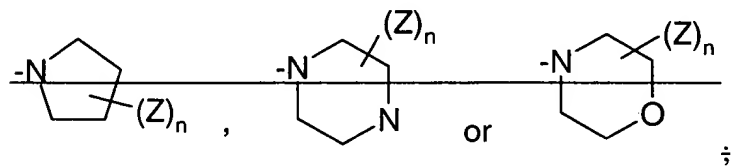
p is 0, 1 or 2;

$X^3$  for each occurrence is independently H or an optionally substituted moiety selected from the group consisting of mono- or di-alkylamino, alkyl, alkenyl, alkynyl, aryl; and arylalkyl; ~~heterocyclyl and heterocyclyl-alkyl;~~

~~or when  $R^1$  is in the 7 position of the benzothiazole ring,  $R^1$  and W can be taken together with the carbon atoms to which they are attached to form an optionally substituted 5 or 6 membered heterocyclyl ring;~~

$R^3$  is hydrogen, or an optionally substituted moiety selected from the group consisting of carbonyl, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, arylalkyl, ~~heterocyclyl, heterocyclyl-alkyl, heterocyclyl-heterocyclyl, heterocyclyl-cycloalkyl,~~ amino, alkylamino, arylamino, alkoxy, thioalkoxy and acyl;

~~or  $R^3$  and  $X^1$  are taken together with the nitrogen atom to which they are attached to form~~



~~where Z for each occurrence is independently selected from the group consisting of oxo, or an optionally substituted moiety selected from the group consisting of  $C(O)(C_4-C_6)$ alkyl,~~

~~$C(O)$ aryl,  $C(O)N(C_4-C_6)$ alkyl,  $C(O)N$  aryl,  $(C_4-C_6)$ alkyl,  $(C_2-C_6)$ alkenyl,  $(C_2-C_6)$ alkynyl, amino, mono or di  $(C_4-C_6)$ alkylamino,  $COO(C_4-C_6)$ alkyl, pyridyl, phenyl, phenyl $(C_4-C_6)$ alkyl and phenyl $(C_4-C_6)$ alkenyl;~~

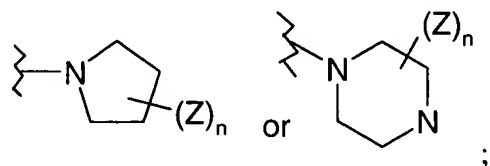
where each of the optionally substituted moieties described hereinabove is optionally substituted by one or more substituents each independently selected from the group consisting of oxo,

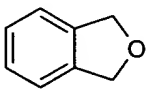
amino, nitro, mono- or bi-(C<sub>1</sub>-C<sub>6</sub>)alkylamino, hydroxy, nitrile, chloro, fluoro, bromo, iodo, CF<sub>3</sub>, (C<sub>1</sub>-C<sub>6</sub>)alkyl, -C(O)(C<sub>1</sub>-C<sub>6</sub>)alkyl, -COOH, -COO(C<sub>1</sub>-C<sub>6</sub>)alkyl, -S-(C<sub>1</sub>-C<sub>6</sub>)alkyl, -S-aryl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy, -SO<sub>2</sub>NH<sub>2</sub>, phenyl, phenyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, -O-(C<sub>1</sub>-C<sub>6</sub>)alkyl-OH, -O-(C<sub>1</sub>-C<sub>6</sub>)alkyl-O-(C<sub>1</sub>-C<sub>6</sub>)alkyl, -O-(C<sub>2</sub>-C<sub>6</sub>)alkyl-N-((C<sub>1</sub>-C<sub>6</sub>)alkyl)<sub>n</sub>, -N-(C<sub>1</sub>-C<sub>6</sub>)alkyl-OH, -N-(C<sub>1</sub>-C<sub>6</sub>)alkyl-O-(C<sub>1</sub>-C<sub>6</sub>)alkyl, -C(O)NH<sub>2</sub>, -C(O)N((C<sub>1</sub>-C<sub>6</sub>)alkyl)<sub>n</sub>, -S(O)<sub>n</sub>(C<sub>1</sub>-C<sub>6</sub>)alkyl; and -S(O)<sub>n</sub>aryl -S(O)<sub>n</sub>heterocyclyl, ~~and heterocyclyl~~, where the alkyl groups mentioned herein optionally have one or more unsaturated bonds in the alkyl portion;

n is 0, 1 or 2;

provided that

- 1) when Q is H; Y is O; R<sup>1</sup> and R<sup>2</sup> are each hydrogen, halogen, alkyl, alkoxy, alkylthio, carboxyalkyl or optionally substituted phenyl; and X<sup>1</sup> is hydrogen or alkyl; then R<sup>3</sup> is not alkyl, alkenyl, alkoxy, cycloalkyl or optionally substituted phenyl;
- 2) when Q is H; Y is O; R<sup>1</sup> and R<sup>2</sup> are each hydrogen, halogen, alkyl, alkoxy, alkylthio, carboxyalkyl or optionally substituted phenyl; then X<sup>1</sup> and R<sup>3</sup> are not taken together to form



- 3) when W is Cl, Br or I; Q is hydrogen; Y is O; X<sup>1</sup> is H; then R<sup>3</sup> is not  or phenyl optionally substituted by 1 to 3 substituents independently selected from the group consisting of amino, mono- or bi-(C<sub>1</sub>-C<sub>6</sub>)alkylamino, hydroxy, chloro, fluoro, bromo, iodo, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy and -SO<sub>2</sub>NH<sub>2</sub>;

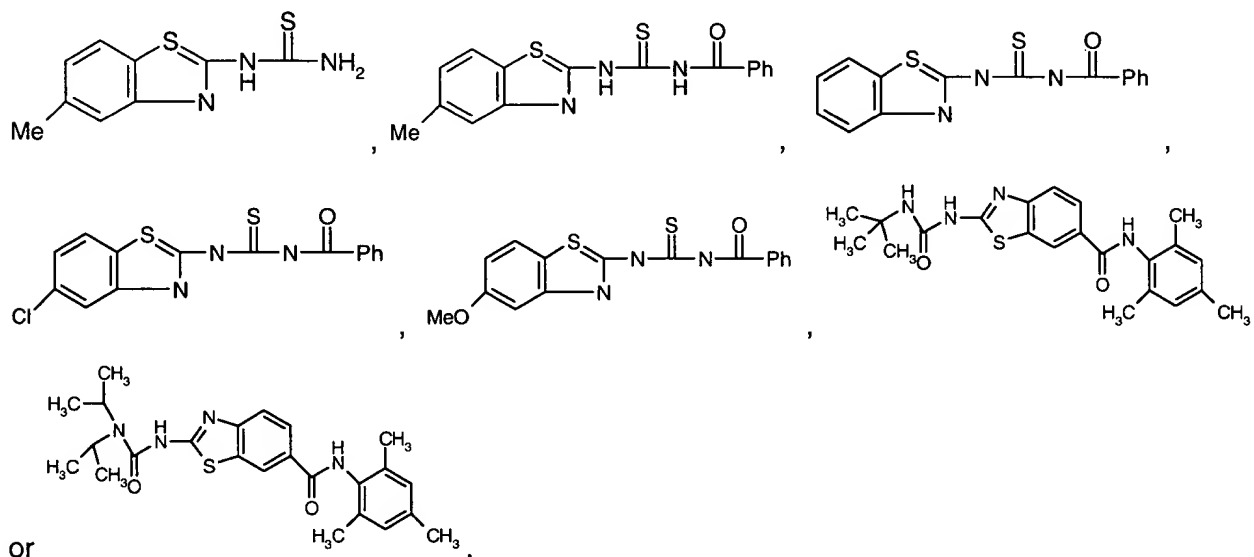
- 4) when W is Cl, Br or I; Q is H; R<sup>1</sup> is 7-Cl; R<sup>2</sup> is H; and X<sup>1</sup> is alkyl; then R<sup>3</sup> is not alkyl, alkoxy or cycloalkyl;

- 5) when W is Cl, Br or I; Q is H; R<sup>1</sup> is 7-Cl; R<sup>2</sup> is H; and X<sup>1</sup> is H; then R<sup>3</sup> is not alkyl or cycloalkylamino;

- 6) when W is Cl, Br, I or NO<sub>2</sub>; Q is H; Y is O; X<sup>1</sup> is H; R<sup>1</sup> is OH; R<sup>2</sup> is NO<sub>2</sub>, amino, alkyl, alkoxy, hydroxy lower alkyl or dialkylamino; then R<sup>3</sup> is not H or alkyl;

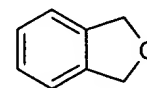
- 7) when W is Cl, Br or I; Q is H; Y is O; R<sup>1</sup> is CF<sub>3</sub>, CH<sub>2</sub>F, NO<sub>2</sub>, alkyl or alkoxy; R<sup>2</sup> is H; X<sup>1</sup> is H; then R<sup>3</sup> is not naphthyl or phenyl optionally substituted with halo, CF<sub>3</sub>, alkyl or alkoxy;

12) the compound is not



or

2. (Currently Amended) A compound according to claim 1, racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein the alkyl, alkenyl and alkynyl moieties, and the alkyl portion of a moiety is an optionally substituted straight or branched chain having one to eight carbon atoms;



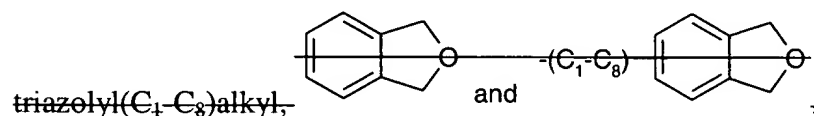
the aryl moiety and the aryl portion of a moiety is an optionally substituted phenyl, or naphthyl;

the heterocyclyl moiety and the heterocyclyl portion of a moiety are selected from the group consisting of an optionally substituted piperidiny, pyridyl, pyrazinyl, pyrimidinyl, thienyl, pyrrolidinyl, piperazinyl, thiomorpholinyl, morpholinyl, 2,3,4,5 tetrahydrofuranyl, 1,3 dioxanyl, 1,4 dioxanyl, furanyl, and 1,2,4 triazolyl, tetrazolyl, imidazolyl, pyrazolyl, thiazolyl, oxazolyl, oxadiazolyl, thiadiazolyl, benzimidazolyl, 1,3 dioxolanyl, 2-imidazoliny, imidazolidinyl, 2-

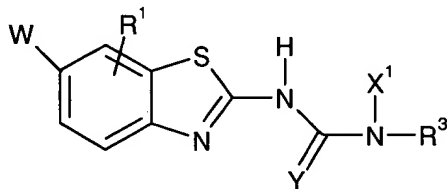
~~pyrazolinyl, pyrazolidinyl, isothiazolyl, 1,2,3 triazolyl, 2H pyranyl, 4H pyranyl, 1,4 dithianyl, 1,3,5 triazinyl, 1,3,5 trithianyl, indolyl, isoindolyl, 3H indolyl, indolynyl, purinyl, 4H quinoliziny, cinnolynyl, phthalazinyl, quinolynyl, isoquinolynyl, quinazolynyl, quinoxalynyl, 1,8 naphthpyridinyl, pteridinyl, quinuclidinyl, carbazolyl, acridinyl, phenazinyl, phenothiazinyl, phenoxazinyl, pyrrolyl, isoxazolyl, pyridazinyl, indazolyl, benzoxazolyl, benzofuranyl, benzothiazolyl, indoliziny, imidazopyridinyl and benzothienyl.~~

3. (Currently Amended) A compound according to claim 2, racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein

R<sup>3</sup> is an optionally substituted moiety selected from the group consisting of (C<sub>1</sub>-C<sub>8</sub>)alkyl, phenyl, phenyl(C<sub>1</sub>-C<sub>8</sub>)alkyl, ~~thienyl, thienyl(C<sub>1</sub>-C<sub>8</sub>)alkyl, piperidinyl, piperidinyl(C<sub>1</sub>-C<sub>8</sub>)alkyl, pyrrolidinyl, pyrrolidinyl(C<sub>1</sub>-C<sub>8</sub>)alkyl, morpholynyl, morpholynyl(C<sub>1</sub>-C<sub>8</sub>)alkyl, 2,3,4,5-tetrahydrofuranyl, 2,3,4,5-tetrahydrofuranyl(C<sub>1</sub>-C<sub>8</sub>)alkyl, furanyl, furanyl(C<sub>1</sub>-C<sub>8</sub>)alkyl, cycloalkyl, and cycloalkyl(C<sub>1</sub>-C<sub>8</sub>)alkyl;~~ pyridyl, pyridyl(C<sub>1</sub>-C<sub>8</sub>)alkyl, 1,2,4 triazolyl, 1,2,4-



4. (Currently Amended) A compound of formula (IA),



(IA),

racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein

W is NO<sub>2</sub> or CN;

Y is O or S;

R<sup>1</sup> is in the 7-position and is hydrogen, methyl, ethyl, allyl, phenyl, benzyl, -CH<sub>2</sub>-C(O)-CH<sub>3</sub>, -CH<sub>2</sub>-CO<sub>2</sub>-t-Bu, -CH<sub>2</sub>-SO<sub>2</sub>-aryl, -alkyl-CN, or -alkyl(CN)(CH<sub>2</sub>-aryl);

X<sup>1</sup> is hydrogen, alkyl or hydroxyalkyl;

R<sup>3</sup> is selected from the group consisting of ethyl, n-butyl, t-butyl, n-propyl, allyl, hydroxyalkyl, aminoalkyl, -alkyl-NH-alkyl-OH, -alkyl-O-alkyl-OH, di-hydroxyalkyl, alkoxyalkyl, (alkylthio)hydroxyalkyl, cycloalkyl, cycloalkylalkyl, hydroxycycloalkyl, (alkylthio)(alkylester)alkyl, alkylesteralkyl, 2,4-dimethoxyphenyl, 3,5-trifluoromethylphenyl, 3-chlorophenyl, 4-chlorophenyl, 2,6-dichlorophenyl, 2-methylphenyl, 3-methylphenyl, (substituted phenyl)alkyl, phenylalkyl, heterocyclalkyl, N-alkylaminoalkyl, and N,N-dialkylaminoalkyl, ~~optionally substituted heterocycl, and optionally substituted heterocyclalkyl.~~

5. (Original) A compound according to claim 4, racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein R<sup>1</sup> is hydrogen and X<sup>1</sup> is hydrogen.

6. (Original) A compound according to claim 4, racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein

W is NO<sub>2</sub>;

Q is hydrogen;

R<sup>1</sup> is in the 7-position and is hydrogen, methyl, ethyl or phenyl;

R<sup>2</sup> are each hydrogen;

X<sup>1</sup> is hydrogen; and

R<sup>3</sup> is selected from the group consisting of ethyl, n-Bu, *t*-Bu, n-Pr, allyl, cyclopropyl, cyclobutyl, 2,4-dimethoxyphenyl, 3,5-bis-trifluoromethylphenyl, 3-chlorophenyl, 4-chlorophenyl, 2,6-dichlorophenyl, 2-methylphenyl and 3-methylphenyl.

7. (Currently Amended) A compound according to claim 3, racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein

Q is H;

W is NO<sub>2</sub>;

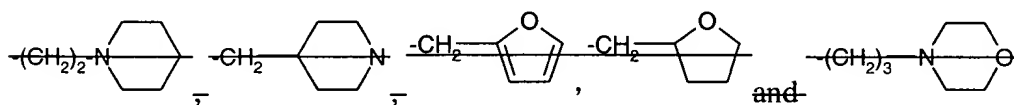
Y is S;

R<sup>1</sup> is in the 7-position and is hydrogen, -CH<sub>2</sub>-SO<sub>2</sub>-phenyl, -CH<sub>2</sub>-CN, -CH(CH<sub>3</sub>)(CN), or -CH(CN)(CH<sub>2</sub>-phenyl);

$R^2$  is hydrogen;

$X^1$  is hydrogen, methyl or  $-(CH_2)_2-OH$ ;

$R^3$  is selected from the group consisting of ethyl, benzyl, EtOH, n-PrOH, n-BuOH, n-pentanol, n-hexanol,  $-(CH_2)_2-NH-(CH_2)_2-OH$ ,  $-(CH_2)_2-O-(CH_2)_2-OH$ ,  $-CH(CH_2CH_3)(CH_2OH)$ ,  $-CH(CH_2OH)(CH_2-i-Pr)$ , 2,3-di-hydroxy-propyl, 2-hydroxypropyl,  $-CH(CH_3)(CH_2OH)$ ,  $-C(CH_3)_2(CH_2OH)$ ,  $-CH_2(CH_3)(CH_2OCH_3)$ , 1,3-dihydroxyisopropyl,  $-CH(CH_2OH)(CH_2CH_2SCH_3)$ , cyclopropyl, cyclopropylmethyl, 4-hydroxycyclohexyl, 3-chlorophenyl, 4-chlorophenyl, 2-methylphenyl, 3-methylphenyl, 4-aminobenzyl, (4-aminophenyl)ethyl,  $-(CH_2)_3-N(Et)_2$ , and  $-(CH_2)_2-N(Me)_2$ , ~~N-piperidinyl, 2,6-dimethylpiperidinyl,~~



8. (Currently Amended)

A compound according to claim 3, racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein

Y is O;

$R^1$  is in the 7-position and is hydrogen,  $-CH_2-SO_2$ -phenyl,  $-CH_2-CN$ ,  $-CH(CH_3)(CN)$ , or  $-CH(CN)(CH_2$ -phenyl);

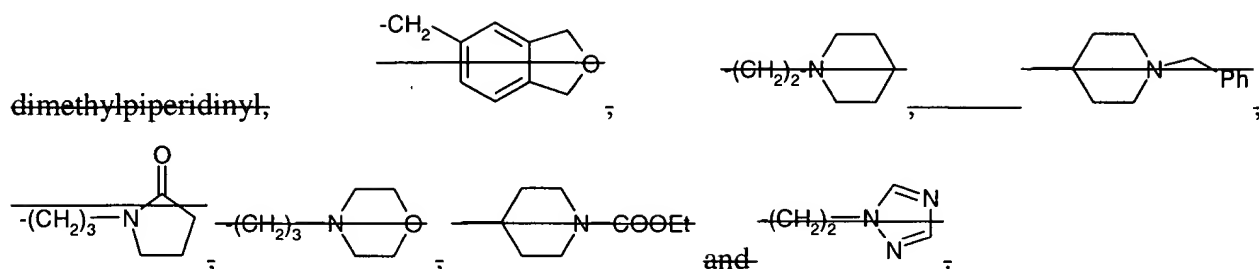
$R^2$  is hydrogen;

$X^1$  is hydrogen, methyl or  $-(CH_2)_2-OH$ ;

$R^3$  is selected from the group consisting of benzyl, EtOH, n-PrOH, *t*-BuOH, n-hexanol, aminoethyl, aminopropyl,  $-(CH_2)_2-NH-(CH_2)_2-OH$ ,  $-(CH_2)_2-O-(CH_2)_2-OH$ ,  $-CH(CH_2CH_3)(CH_2OH)$ ,  $-CH(CH_2OH)(CH_2-i-Pr)$ , 2,3-di-hydroxy-propyl, 2-hydroxypropyl,  $-CH(CH_3)(CH_2OH)$ , 1,3-dihydroxyisopropyl,  $-CH(CH_2OH)(CH_2CH_2SCH_3)$ , cyclobutyl, 4-hydroxycyclohexyl,  $-CH(COOEt)(CH_2)_2-SCH_3$ ,  $-(CH_2)_2-COOEt$ ,  $-(CH_2)_5-COOEt$ , (2-aminophenyl)methyl, 4-aminobenzyl, (4-aminophenyl)ethyl,  $-C(CH_3)_2$ (phenyl),  $-CH_2$ (2,4-difluorophenyl), ~~2-pyridylmethyl, 3-pyridylmethyl, 4-pyridylmethyl~~  $-(CH_2)_2$ -thien-2-yl,  $-CH(i-Pr)(COOEt)$ ,  $-CH(i-Pr)(CH_2OH)$ , 3-(N-methylamino)propyl,  $-(CH_2)_3-N(Et)_2$ ,  $-(CH_2)_4-N(Et)_2$ ,  $-CH(Me)(CH_2)_4-CH_3$ ,  $-CH(Me)(CH_2)_3-N(Et)_2$ , ~~N-piperidinyl,~~ and  $-(CH_2)_2$ -(4-( $SO_2NH_2$ )phenyl)<sub>2</sub>, ~~2,6-~~



dimethylpiperidinyl,



9. (Original) A compound according to claim 3, racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein

W is NO<sub>2</sub>;

Q is hydrogen;

R<sup>1</sup> is in the 7-position and is -CH<sub>2</sub>-CO<sub>2</sub>-t-Bu, allyl or benzyl;

R<sup>2</sup> are each hydrogen;

X<sup>1</sup> is hydrogen; and

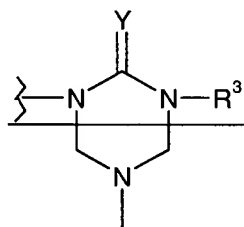
R<sup>3</sup> is ethyl.

10. (Currently Amended) A compound according to claim 3, racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein

W is NO<sub>2</sub>;

R<sup>1</sup> is in the 7-position and is hydrogen, -CH(CH<sub>3</sub>)(CN) or -CH(CN)(CH<sub>2</sub>-phenyl); and

R<sup>2</sup> is hydrogen; and



Q is taken together with X<sup>1</sup> and to form

, where Y is O and R<sup>3</sup> is ethyl.

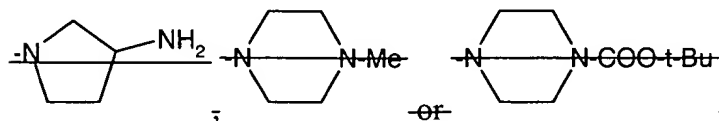
11. (Currently Amended) A compound according to claim 2, racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein

W is NO<sub>2</sub>;

Q is H;

R<sup>1</sup> and R<sup>2</sup> are each hydrogen; and

~~R<sup>3</sup> and X<sup>1</sup> are taken together with the nitrogen atom to which they are attached to form~~



12. (Currently Amended) A compound according to claim 3, racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein

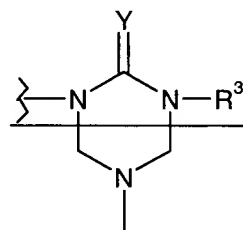
W is NO<sub>2</sub>;

R<sup>1</sup> is hydrogen or is in the 7-position and is -CH<sub>2</sub>-CN, -CH<sub>2</sub>-CONH<sub>2</sub> and -CH<sub>2</sub>-COO-t-Bu;

R<sup>2</sup> is hydrogen;

X<sup>1</sup> is hydrogen or -CH<sub>2</sub>-O-CH<sub>3</sub>;

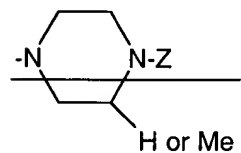
R<sup>3</sup> is methyl, ethyl, n-BuOH, -CH<sub>2</sub>CF<sub>3</sub>, ~~morpholine~~, -(CH<sub>2</sub>)<sub>7</sub>-N(Me)<sub>2</sub>, 2-phenyl-phenyl, n-BuOH, -CH<sub>2</sub>CF<sub>3</sub>, ~~morpholine~~, -(CH<sub>2</sub>)<sub>4</sub>-N(Me)<sub>2</sub>, -(CH<sub>2</sub>)<sub>2</sub>-N(Me)<sub>2</sub>, -(CH<sub>2</sub>)<sub>3</sub>-NHMe, benzyl or -CH<sub>2</sub>-O-CH<sub>3</sub>.



~~or Q is hydrogen or is taken together with X<sup>1</sup> to form ethyl;~~

, where Y is O and R<sup>3</sup> is

~~or R<sup>3</sup> and X<sup>1</sup> are taken together with the nitrogen atom to which they are attached to form~~



~~H or Me, where Z is methyl, 4 fluorophenyl, 2 pyridyl, 2 methoxyphenyl, CH<sub>2</sub>-CH=CH-phenyl or 2,4-dimethoxyphenyl.~~

13. (Currently Amended) A compound according to claim 1, racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein

W is Cl or Br;

Q is H;

$R^3$  is an optionally substituted moiety selected from the group consisting of alkyl, alkenyl, phenyl, phenylalkyl, ~~heterocyclyl, heterocyclyl-alkyl~~ or aminoalkyl.

14. (Currently Amended) A compound according to claim 13, racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein

$R^3$  is alkyl, haloalkyl, esteralkyl, N,N-dialkylaminoalkyl, alkenyl, phenyl, phenylalkyl, halophenyl, alkoxyphenyl, aryloxyphenyl, ~~thienyl-alkyl, halopyridyl, heterocyclyl, heterocyclyl-alkyl~~ or aminoalkyl.

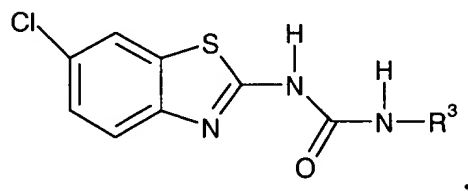
15. (Currently Amended) A compound according to claim 14, racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein

W is Cl;

$R^3$  is ethyl, propyl, butyl, t-butyl, 2,4,6-trichlorophenyl, 2,4-dimethoxyphenyl, ~~-(CH<sub>2</sub>)<sub>2</sub>-2-thienyl,~~ allyl, 2-bromoethyl, 2-phenoxyphenyl, ~~2,6-dichloropyrid-4-yl,~~ benzyl,  $-(CH_2)_2-COOEt$ ,  $-(CH_2)_3-N(Et)_2$ ,  $-(CH_2)_4-N(Et)_2$ , or  $-(CH_2)_2-N(Me)_2$ .

16. (Currently Amended) A compound according to claim 15, racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein  $R^3$  is ~~-(CH<sub>2</sub>)<sub>2</sub>-2-thienyl,~~ allyl, 2-bromoethyl, 2-phenoxyphenyl, ~~2,6-dichloropyrid-4-yl,~~ benzyl,  $-(CH_2)_2-COOEt$ ,  $-(CH_2)_3-N(Et)_2$ ,  $-(CH_2)_4-N(Et)_2$ , or  $-(CH_2)_2-N(Me)_2$ .

17. (Original) A compound of the formula



racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein

$R^3$  is ethyl, propyl, t-butyl, 2,4,6-trichlorophenyl or 2,4-dimethoxyphenyl.

18. (Original) A compound according to claim 14, racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein

R<sup>1</sup> is hydroxy, nitro, or an optionally substituted moiety selected from the group consisting of alkyl, alkoxy, arylalkyloxy and sulfonato;

R<sup>2</sup> is halo or nitro; and

R<sup>3</sup> is alkyl or phenylalkyl.

19. (Original) A compound according to claim 18, racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein

R<sup>1</sup> is hydroxy, nitro, methyl, methoxy, isopropoxy, benzyloxy, 4-fluorobenzyloxy, -O-C(CH<sub>3</sub>)<sub>2</sub>(C(O)NH<sub>2</sub>), -O-(CH<sub>2</sub>)<sub>2</sub>-O-(CH<sub>2</sub>)<sub>2</sub>-OMe or -O-SO<sub>2</sub>-CF<sub>3</sub>;

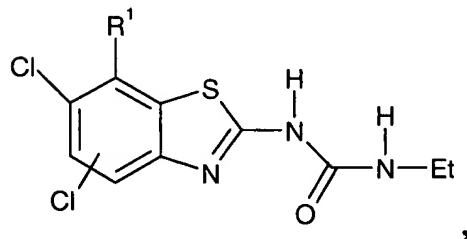
R<sup>2</sup> is Cl or nitro; and

R<sup>3</sup> is ethyl or benzyl.

20. (Original) A compound according to claim 19, racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein X<sup>1</sup> is H.

21. (Original) A compound according to claim 20, racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein W is Cl; R<sup>1</sup> is in the 7-position; and R<sup>2</sup> is in the 4- or 5-position.

22. (Original) A compound of the formula



racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein R<sup>1</sup> is methyl, methoxy or isopropoxy.

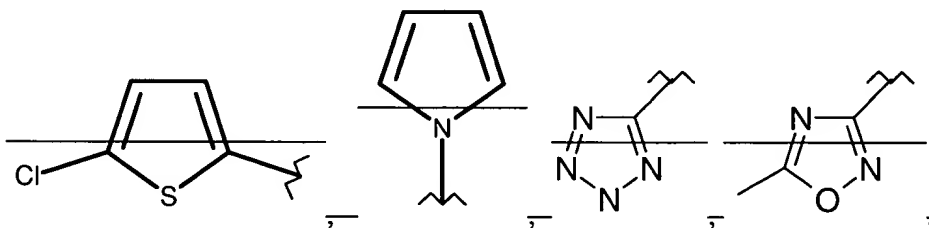
23-37 (Cancelled)

38. (Original) A pharmaceutical composition comprising a compound according to claim 1 and a pharmaceutically acceptable diluent or carrier.

39. (Original) A pharmaceutical composition for inhibiting a protein kinase, which composition comprises a pharmaceutically acceptable carrier or diluent and an effective amount of a compound of formula (IB) as defined hereinabove, racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes.

40. (Currently Amended) A compound according to claim 1, wherein W is  $-(CH_2)_2-NH-C(O)-NH-(C(R^{10})_2)_a-Z^1_q$  ~~or an optionally substituted heterocyclyl~~;  $R_1$  and  $R_2$  are each H; Q is H; Y is O;  $X^1$  is H; and  $R_3$  is an optionally substituted alkyl.

41. (Currently Amended) A compound according to claim 40 wherein W is:



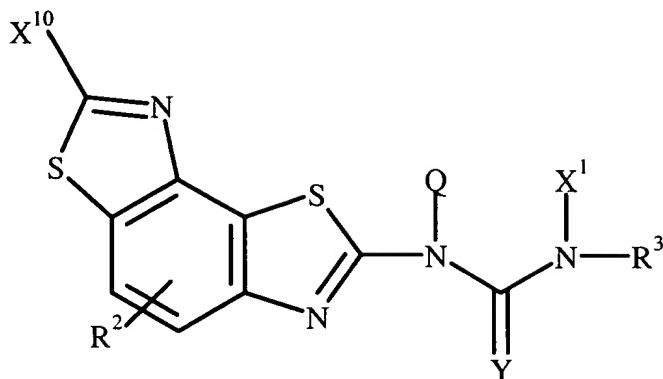
$-(CH_2)_2-NH-C(O)-NH-Et$ ,  $-CH_2-NH-C(O)-NH-ethyl$ ,  $-CH_2-NH_2$ ,  $-NH-phenyl$ ,  $-C(O)-NH_2$ ,  $-CH_2-NH-S(O)_2-Ph$ ,  $-C(O)-NH-phenyl$ ,  $-CH_2-NH-S(O)_2-CF_3$ ,  $-CH_2-CN$ ,  ~~$-CH_2-NH-CH_2-5-methyl-furan-2-yl$~~ ,  ~~$C(O)-NH-(CH_2)_3-(4-methylpiperazin-1-yl)$~~ ,  $-(CH_2)_2-NH-C(O)-NH-(phenyl)$ , or  $-(CH_2)_2-NH-C(O)-NH-(p-toluy)$ .

42. (Original) A compound according to claim 41, wherein  $R^3$  is ethyl.

43. (Original) A compound according to claim 1, wherein W is CN;  $R^1$  and  $R^2$  are each H; Q is H; Y is O; and  $X^1$  is H; ~~and  $R_3$  is an optionally substituted heterocyclyl heterocyclyl, or heterocyclyl-cycloalkyl.~~

44. (Cancelled)

45. (Original) A compound according to claim 1, wherein  $R^1$  and W are taken together to form

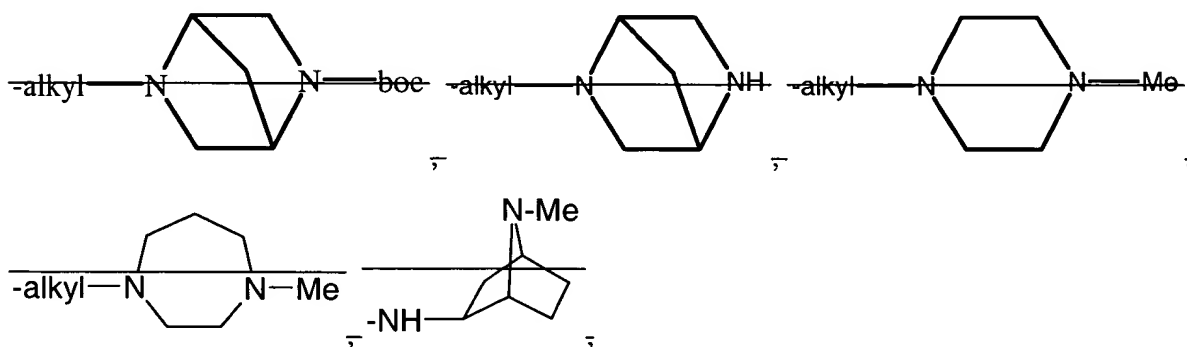


where  $X^{10}$  is independently selected from the same group of substituents as  $X^3$ .

46. (Original) A compound according to claim 45, wherein  $R^2$  is H; Q is H; Y is O;  $X^1$  is H;  $R^3$  is alkyl; and  $X^{10}$  is ethyl, 3-pyridyl, N-(p-Br-phenyl)-NH-, 1-piperidyl or  $CH_3$ -NH-.

47. (Original) A compound according to claim 1, wherein W is H; and  $R^1$  is  $-S-X^3$ ,  $-S(O)X^3$  or  $-S(O)_2X^3$ .

48. (Currently Amended) A compound according to claim 1, wherein W is Br, Cl or p-fluorophenoxy,  $R^1$  and  $R^2$  are each H; Q is H; Y is O;  $X^1$  is H; and  $R^3$  is alkyl-chloro,



~~-alkyl piperazin-1-yl, alkyl (2,5-dimethylpiperazin-1-yl), alkyl (3,5-dimethylpiperazin-1-yl), alkyl (3-aminocarbonylpiperidin-1-yl), alkyl (4-hydroxypiperidin-1-yl), alkyl (3-hydroxypiperidin-1-yl), -alkyl-COOEt, -alkyl-COOH, alkyl (4-methylpiperazin-1-yl), alkyl (N-morpholinoethylamino), alkyl (N-piperidinylethylamino), alkyl (N,N-diethylaminoethyl)-N-(methylamino), alkyl ((1-ethylpyrrolidin-2-yl)-methylamino), alkyl (N-(1-methylpiperidin-4-yl)-N-(methylamino), alkylamino, alkyl-piperidin-1-yl or alkyl-(N,N-diethylaminoethylamino).~~

49. (Original) A compound according to claim 48, wherein the alkyl group is methylene, ethylene or propylene.

50. (Original) A compound according to claim 1, wherein  $R^2$  is H; Q is H; Y is O;  $X^1$  is H and  $R^3$  is ethyl.

51. (Currently Amended) A compound according to claim 50, wherein W is H or Br; and  $R^1$  is in the 7-position of the benzothiazolyl ring and is  $-C\equiv CH$ ,  $-C\equiv C$  (2-pyridinyl),  $-C\equiv C-CH_2-N(CH_3)_2$ ,  $-O-CH(CH_3)_2$ , phenyl or  $-CH=CH_2$ .

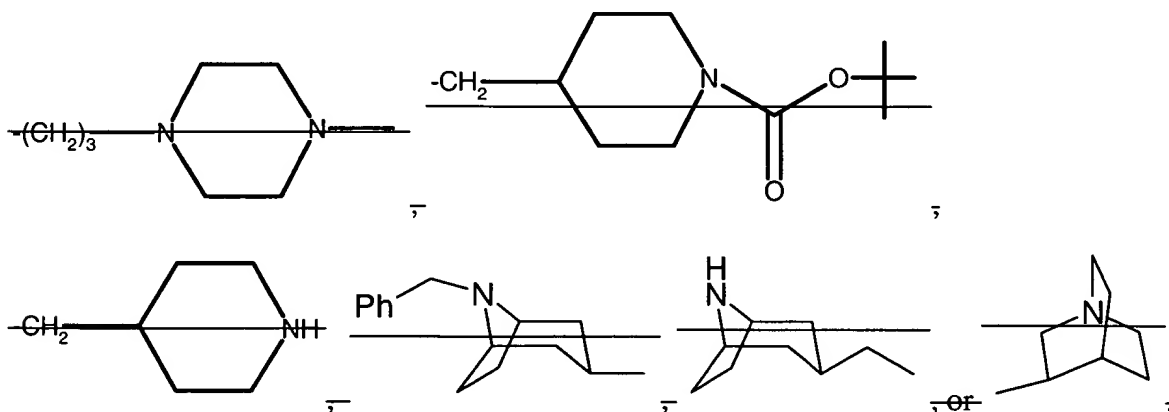
52. (Original) A compound according to claim 50, wherein  $R^1$  is  $-CH=CH_2$  and W is  $-CH=CH_2$ .

53. (Currently Amended) A compound according to claim 50, wherein  $R^1$  is H and W is benzyl; or p-fluorophenoxy or ~~pyridin-4-ylmethyl~~.

54. (Original) A compound according to claim 50, wherein W is F;  $R^1$  is in the 7-position of the benzothiazolyl ring and is H or Cl; and  $R^2$  is in the 5-position of the benzothiazolyl ring and is H or Cl.

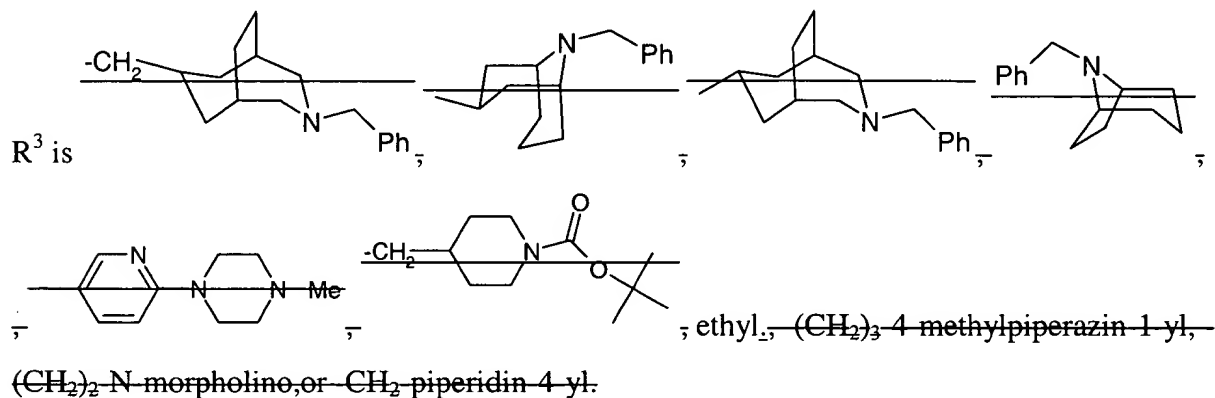
55. (Currently Amended) A compound according to claim 50, wherein  $R^1$  is H and W is  $-CH\equiv CH$ ,  $-C\equiv C-Ph$ ,  $-C\equiv C-CH_2-N(CH_3)_2$ ,  $-C\equiv C$ -(4-fluorophenyl),  $-C\equiv C$ -(p-toluy),  $-(CH_2)_2-Ph$ ,  $-(CH_2)_2$ -(4-fluorophenyl),  $-CH=CH$ -phenyl,  $-CH=CH-CH_2-N(CH_3)_2$ ,  $-CH=CH$ -(4-fluorophenyl); or  $-CH=CH$ -(p-toluy); or  ~~$-CH=CH$ -(1-imidazolyl)~~.

56. (Currently Amended) A compound according to claim 1, wherein W is p-fluorophenoxy; or  $-(CH_2)_3-NHMe$  or  ~~$-(CH_2)_2$ -1-piperazinyl~~; and  $R^3$  is  $-CH_2-C(Me)_2-CH_2-N(CH_3)_2$ ;  ~~$-(CH_2)_2$ -(5-imidazolyl)~~;

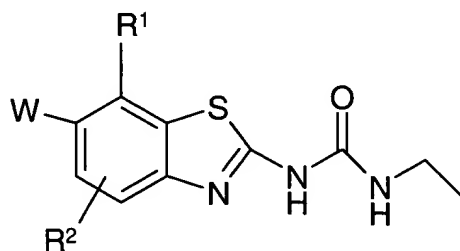


57. (Currently Amended) A compound according to claim 1, wherein  $R^1$  is in the 7-position of the benzothiazolyl ring and is H or CN;  $R^2$  is H; Y is O; Q and  $X^1$  are each H;

W is Cl, NO<sub>2</sub>, -CH<sub>2</sub>-OH, -CH<sub>2</sub>-O-C(O)-NH-Et, -S-phenyl, -O-phenyl, -S-CH<sub>3</sub>, -C(O)-phenyl, -S(O)-phenyl, -S-*p*-nitrophenyl, -S-*p*-methylphenyl, -S-*p*-chlorophenyl, -S-*p*-methoxyphenyl, -S-*m*-CF<sub>3</sub>-phenyl, -S-*o*-chlorophenyl, -C(O)-CH<sub>3</sub>, ~~NH-C(O)-NH-(CH<sub>2</sub>)<sub>2</sub>-2-thienyl~~, ~~NH-C(O)-NH-3-pyridyl~~, -S(O)<sub>2</sub>-*p*-(carboxymethylamino)-phenyl, ~~N-morpholino~~, -NH-C(O)-NH-Et, -NH-C(O)-NH-CH<sub>2</sub>-phenyl, -S-*p*-chlorophenyl, -S-*p*-bromophenyl, -S-*m*-CF<sub>3</sub>-phenyl, or -S-*p*-fluorophenyl;



58. (Currently Amended) A compound of the formula



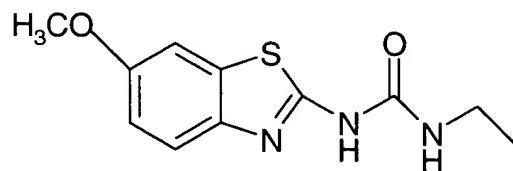
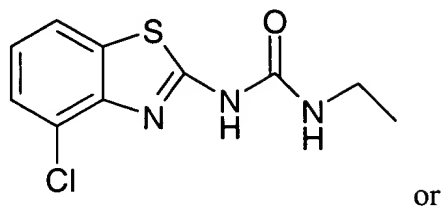
wherein W is H, -OCF<sub>3</sub>, -O-Et, F, CH<sub>3</sub>, -OCH<sub>3</sub>, -SO<sub>2</sub>-Me, NH<sub>2</sub>, -NH-C(O)-Me, -NH-CH<sub>2</sub>-phenyl, ~~NH-S(O)<sub>2</sub>-2-thienyl~~, ~~NH-S(O)<sub>2</sub>-(3,5-dimethylisoxazol-4-yl)~~, -NH-S(O)<sub>2</sub>-Me, -NH-S(O)<sub>2</sub>-CH<sub>2</sub>-phenyl, -NH-C(O)-O-CH<sub>2</sub>-CCl<sub>3</sub>, -NH-C(O)-O-CH<sub>2</sub>-Ph, -NH-C(O)-O-Me or NO<sub>2</sub>;

R<sup>1</sup> is H, F or -CH<sub>2</sub>-S(O)<sub>2</sub>-phenyl; and

R<sup>2</sup> is H, 4-Cl, 4-methyl, 5-methyl, 5-Cl, 5-F or 5-OCH<sub>3</sub>

provided that the compound is not





59-60 (Cancelled)